

REMARKS

The Official Action of March 7, 2006, and the prior art cited and applied therein have been carefully reviewed. The claims in the application are now claims 1-4 and 6-13, and these claims define novel and unobvious subject matter warranting their allowance. Therefore, the applicant respectfully requests favorable reconsideration and allowance.

Acknowledgement by the PTO of the receipt of applicant's papers filed under Section 119 is noted.

Applicant confirms the oral election of Group I, and respectfully repeats the oral traverse at least with respect to claim 5 because claim 5 is a product-by-process claim and should be maintained with the process. New claim 13 has been added which is the process equivalent of product-by-process claim 6.

Claim 5 has been deleted without prejudice to applicant's rights to pursue non-elected Group II in a divisional application without any penalty whatsoever, such rights including those provided by Section 121, 120 and 119.

Claim 1 has been rejected under the second paragraph of Section 112. The rejection is respectfully traversed.

An appropriate amendment has been made in claim 1 above to provide explicit antecedent basis for "the stationary die". However, applicant respectfully notes for the record that inherent or implicit elements need not be provided with antecedent basis, noting MPEP 2173.05(e).

Applicant moreover believes that the claims as previously drafted, considered in light of applicant's specification (consistent with the law), would not have been confusing to those skilled in the art, and therefore the claims in their previous form were fully in accordance with Section 112. At **worst**, claim 1 in its previous form might be considered objectionable, but **only** as to form, requiring no substantial amendment relating to patentability.

Withdrawal of the rejection is in order and is respectfully requested.

New claims 9-13 have been added. Claim 9 finds support in paragraph [0032]. Claim 10 is similar to claim 7, but with less detail, and finds support in Figs. 1-3 and paragraph [0013]. Claim 11 finds support in paragraphs [0021] and [0024]. Claim 12 finds support in Fig. 5 and in paragraphs [0029] and [0030]. Claim 13 is a method claim which parallels claim 6. The new claims are patentable because they depend directly or ultimately from claim 1 and therefore incorporate the subject matter of claim 1 which is

patentable for reasons given below, and the new claims are further patentable because the dependent portions thereof provide additional novel and non-obvious subject matter.

Claims 1-4, 7 and 8 have been rejected as obvious under §103 from Braun et al USP 6,180,275 (Braun) in view of Uda et al USP 4,489,033 (Uda). This rejection is respectfully traversed.

Braun basically discloses only the composition which may be used to form a fuel cell separator. As correctly stated in the rejection, "Braun does not give specific molding steps." The disclosure that a die may be of any desired geometry is no disclosure of any specific geometry whatsoever, and is certainly no description or teaching of applicant's geometry which provides important advantages for the reasons set forth in applicant's specification, e.g. maximizing production under conditions where mobility of the molding material (electrically conductive material having poor flowability, e.g. a resin containing a substantial carbon) is very bad, while at the same time making a product of exceptionally good uniformity and regularity.

Uda is pertinent in that it does indeed show injection compression molding of a plastic having a low amount of fluidity, namely ultra high molecular weight polyethylene.

However, that is as close to the present invention as Uda comes.

The rejection concludes for claim 1 that it would have been *prima facie* obvious to use Uda's specific molding steps to carry out Braun's general molding technique. However, even if that were so, it would not reach the subject matter of claim 1, and would not yield applicant's product having the advantages as pointed out above and in applicant's specification. In particular in this regard, the geometry and co-planar relationship of the separator molding portions of the cavity are important in achieving the advantages of the present invention, and these features are not disclosed or made obvious in either Braun or Uda.

As pointed out in the "Background" section of applicant's specification at pages 1 and 2, the required PEFC separators are plate-like, and prior methods for their formation have presented problems, e.g. "the thickness of the molded PEFC separators cannot be [made] uniform" in certain prior operations.

On the other hand, if the melted material is supplied to each cavity sequentially and not at the same time, there is a problem in that thermal hysteresis of the melted material may vary and an unevenness between the molded PEFC separators may occur.

In the case of the provision of molding a plurality of PEFC separators at one time,

it is difficult to uniformly inject the melted material having poor flowability to the end of each cavity via a runner due to a large pressure loss and, even if the melted material is filled up to the end of the cavities, the thickness of the molded PEFC separators will not be uniform.

Other problems stated to be solved by the present invention involve maintaining uniform thickness and the waste of material.

As pointed out in paragraph [0006] at the top of page 3 of applicant's specification, the problems described with respect to the prior art are overcome by the present invention, e.g.

it is an object of the present invention to mold a plurality of PEFC separators each of which is free of warp and has a substantially uniform thickness using an electrical conductive material having low flowability at one time.

This is accomplished as indicated in paragraphs [0007] and [0009] by providing a cavity for receipt of the conductive material having "a plurality of separator molding portions [which] are connected to each other in one cavity." This feature is not disclosed and not taught by either Braun or Uda, it being noted that Uda at most discloses a plurality of

separate cavities, but actually only discloses a single annular cavity. There certainly are no plurality of molding portions connected to each other in one cavity.

To briefly summarize, claim 1 contains features which are neither shown nor suggested by either Braun or Uda, and therefore no combination of these references (even if such a combination were obvious) could reach the subject matter of claim 1. Therefore, claim 1 discloses not only novel subject matter under §102, but also non-obvious subject matter under §103. Consequently, the rejection should be withdrawn, and such is respectfully requested.

As all the other claims depend either directly or indirectly from claim 1, they incorporate the subject matter of claim 1 and therefore are patentable for the same reasons as pointed out above with respect to claim 1.

As regards the dependent portion of claim 7, applicant respectfully disputes the rejection as appears in the top paragraph on page 6 of the Office Action. Neither Braun nor Uda suggests features which appear in the dependent portion of claim 7. Figs. 1-4 of Uda are described in the Uda example at column 6 wherein the molding of a bearing is described. Applicant understands the cavity 3 to be a single cavity of annular configuration, regardless of its orientation.

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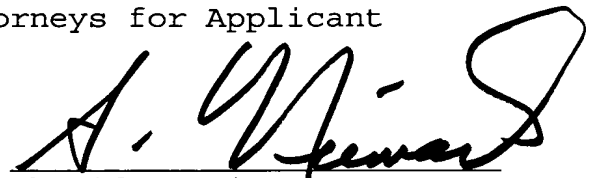
The prior art documents of record and not relied upon by the PTO have been noted, along with the implication that such documents are deemed by the PTO to be insufficiently material to warrant their application against any of applicant's claims.

Applicant believes that all issues raised in the Office Action have been addressed above in a manner favorable to allowance of the present application. Accordingly, applicant respectfully requests favorable reconsideration and early formal allowance.

Respectfully submitted,

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